

REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claims 4-7 and 13-15 are canceled without prejudice or disclaimer. Claims 1, 2, 3, 9 and 17 have been amended. New claims 20-22 have been added. Support for the amendments and the new claims are provided by at least Figures 3-12 and the related description of those figures in the present application. No new matter has been added.

Objections

Claims 13-15 and 17 were objected to for formality issues. Claims 13-15 have been canceled and claim 17 has been amended to correct the claim dependency. Withdrawal of the objection is respectfully requested.

§102 Rejections

Claims 1-8 and 13-15 were rejected under 35 U.S.C. §102(b) as being anticipated by Zinger (US 5,810,885). Applicants respectfully traverse this rejection. Claims 4-7 and 13-15 have been canceled, rendering this rejection moot as to those claims.

Zinger discloses a device for applying two-component products, such as medical tissue adhesives. The device includes a flat head piece 9 to which is mounted a tubular body 10. The tubular body 10 includes a multiple lumen tube 11. At the rear end of the head piece 9, portions of tube cannula hubs 12, 13 protrude for connection to separate syringes 20, 21 (see Figure 1). Two of the lumens 15, 16 of the tube 11 are fluidly connected to the syringes 20, 21 via cannula hubs 12, 13 of the head piece 9. The remaining lumen 17 of the multiple lumen tube 11 is fluidly connected to a source of pressurized gas via the flat head piece 9 and an air tube 30.

The rejection asserts that the flat head piece 9 disclosed by Zinger is equivalent to the manifold recited in the claims, and the multiple lumen tube 11 is equivalent to the mixing tip recited in the claims. Applicants submit that the flat head piece 9 and multiple lumen tube 11 disclosed by Zinger fail to meet every limitation of at least independent claims 1-3. For example, Zinger fails to disclose a manifold that includes a housing having proximal and distal

ends, and first and second tubes each defining a fluid lumen extending distally beyond the distal end of the housing as recited by claim 1. Zinger also fails to disclose a manifold that includes "a plurality of corresponding lumens fluidly connected to the syringes and extending distally from the manifold," as recited in claims 2 and 3. Zinger discloses cannulas 25, 26 positioned within the flat head piece 9 (see Figure 2 of Zinger). However, these cannulas 25, 26 terminate prior to a distal end of the flat head piece 9.

Furthermore, Zinger fails to disclose a mixing tip mounted to the manifold housing, wherein the first and second tubes extend through the cavity of the mixing tip and extend distally beyond the open distal end of the mixing tip, as required by claim 1. Zinger also fails to disclose a gas inlet member extending from the mixing tip that is adapted to deliver a source of compressed air to the gas chamber, as required by claim 1. Zinger further fails to disclose a mixing tip wherein "the solution separately exits the applicator at a location distal of the distal end of the mixing tip," or "a gas inlet member extending proximally from the mixing tip at an angle less than 90 degrees relative to longitudinal axis of the mixing tip," as required by claim 2. Still further, Zinger fails to disclose "a gas inlet member extending proximally from the mixing tip at a non-perpendicular angle relative to the longitudinal axis of the mixing tip," as required by claim 3. Each of the lumina 15, 16, 17 disclosed by Zinger terminate at the distal end of the multiple lumen tube 11. Further, the gas inlet to the device disclosed by Zinger is positioned on the flat head piece 9 rather than being mounted to the tubular body 10. Thus, Zinger fails to disclose every limitation of claims 1-3 and the claims that depend from them for the multiple reasons discussed above.

Claims 1-8, 13-15 and 17 were rejected under 35 U.S.C. §102(e) as being anticipated by Sawhney (US 6,179,862). Applicants respectfully traverse this rejection. Claims 4-7 and 13-15 have been canceled, rendering this rejection moot as to those claims.

Sawhney discloses a sprayer 10 with reference to, for example, Figure 1A, that includes a body 11 having an elongate barrel 12. A pair of syringes 13, 14 are mounted in the body 11 and a pair of outlet nozzles 20a, 20b extend from the syringes 13, 14 to a distal end face 28 of the barrel 12. A compressor 17 supplies a gas flow to a gas inlet port 16 that extends

perpendicularly from the barrel 12. The gas flows through gas flow outlets 21a, 21b (see Figure 1B). With reference to Figure 1D, a single gas flow outlet 21a' can deliver the pressurized gas around both of the outlet nozzles 20a', 20b' at the distal end face 28 of the barrel 12.

The sprayer device disclosed by Sawhney is a single piece unit that includes both the body 11 and elongate barrel 12. Sawhney fails to disclose a mixing tip that is separate from a manifold, wherein the mixing tip is mounted to, connected, or otherwise attached to the manifold, as required by claims 1-3. Sawhney also fails to disclose a mixing tip that includes a gas inlet extending proximally from the mixing tip as required by claims 1-3. The gas source disclosed by Sawhney extends in a perpendicular direction relative to the barrel 12. The proximally extending orientation of the gas inlet recited in claims 1-3 can provide certain advantages related to ease of use and operation of the applicator. Sawhney fails to disclose or suggest such an orientation for the gas inlet.

In view of the above, Applicants submit that Sawhney fails to disclose every limitation of claims 1-3 and the claims that depend from them.

§103 Rejections

Claims 9-12 and 18-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Zinger or Sawhney. Applicants respectfully traverse this rejection.

Zinger and Sawhney each fail to disclose or suggest every limitation of claims 1 and 3 for those reasons discussed above. One of ordinary skill in the art reviewing the disclosures of Zinger and Sawhney would have no motivation or suggestion to develop each of the limitations recited in claims 1 and 3. Therefore, claims 9-12 and 18-19 are allowable for at least the reason they are dependent upon an allowable base claim. Applicants do not otherwise concede the correctness of this rejection.

New Claims

New claims 20-22 have been added as new claims depending from claims 1 and 2. The prior art of record fails to disclose or suggest a manifold and mixing tip arrangement wherein the housing of the manifold is insertable into the proximal end of the mixing tip as required by claim 21. The prior art of record also fails to disclose or suggest orienting the gas inlet at either a non-perpendicular angle or an angle less than 90 degrees as set forth in claims 21 and 22. Therefore, Applicants submit that claims 20-22 are allowable over the prior art. Favorable consideration and allowance of claims 20-22 is respectfully requested.

In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance. If a phone conference would be helpful in resolving any further issues related to this matter, please contact Applicants' attorney listed below at (612) 371-5387.

Respectfully submitted,

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